

CLAIMS

1. (Currently amended) A method for assembling carbon particles into at least one fiber, the method comprising the steps of:
aligning said carbon particles by flowing a mixture of said carbon ~~molecules~~ particles and a curable liquid down a tapering tube starting at a first end of said tapering tube; ~~and~~
curing said flowing mixture at least near a second end of said tapering tube whereby a fiber is formed, wherein said fiber comprises said carbon particles and a solidified portion of said curable liquid; and
heating said fiber so as to cause volatile elements of the solidified portion to substantially dissipate from the fiber.
2. (Original) The invention as defined in claim 1 further comprising the step of dispersing said carbon particles within said curable liquid to form said mixture.
3. (Original) The invention as defined in claim 1 wherein said curable liquid cures, at least in part, in the presence of ultraviolet light.
4. (Canceled)
5. (Original) The invention as defined in claim 1 further comprising the step of twisting said fiber.
6. (Original) The invention as defined in claim 1 further comprising the step of increasing the density of said fiber.
7. (Canceled)
8. (Original) The invention as defined in claim 1 comprising the step of sintering at least some of said carbon particles within said fiber.
9. (Original) The invention as defined in claim 1 comprising the step of cladding said fiber.
10. (Original) The invention as defined in claim 1 comprising the step of spooling said fiber onto a take-up drum.
11. (Previously presented) The invention as defined in claim 1 wherein said curable liquid comprises at least one of the group consisting of:
(i) a copolymer of (a) methylmethacrylate with (b) the ester of methacrylic acid and anthaceyl methanol; and
(ii) PS2067.
12. (Original) The invention as defined in claim 1 wherein carbon particles comprise at least carbon nanotube molecules.

13. (Original) The invention as defined in claim 1 wherein carbon particles comprise at least carbon fibrils.

14. (Canceled)

15. (Original) The invention as defined in claim 1 wherein said curing step is performed, at least in part, by shining ultraviolet light upon said mixture.

16. (Original) The invention as defined in claim 1 wherein said curing is performed at least in part while said mixture remains within said tapering tube.

17. (Original) The invention as defined in claim 1 wherein said tapering tube has a portion that is at least partially translucent to ultraviolet light.

18. (Original) The invention as defined in claim 1 wherein said curing is performed at least in part after said mixture has exited from said tapering tube.

19. (Currently amended) A method for assembling carbon particles into at least one aligned fiber, the method comprising the steps of:

passing a curable liquid containing carbon particles through a tapering tube, whereby said carbon particles become substantially aligned;

curing said passing liquid near an end of said tapering tube whereby a fiber is formed, wherein said fiber comprises said carbon particles and a solidified portion of said curable liquid; and

heating said fiber so as to cause volatile elements of the solidified portion to substantially dissipate from the fiber.

20. (Original) The invention as defined in claim 19 wherein said carbon particles are carbon nanotube molecules.

21. (Original) The invention as defined in claim 19 wherein said carbon particles are carbon fibrils.

22-27. (Canceled)

28. (Currently amended) A method for assembling carbon particles into at least one fiber, the method comprising the steps of:

aligning said carbon particles by flowing a mixture of said carbon ~~molecules~~ particles and a curable liquid down a tapering tube starting at a first end of said tapering tube;

curing said flowing mixture at least near a second end of said tapering tube using ultraviolet light whereby a fiber is formed;

heating said fiber so as to cause any volatile elements from said solidified curable liquid to substantially dissipate from said fiber;

twisting said fiber to increase its density; and

heating said fiber to sinter said carbon particles within said fiber.

29. (Original) The invention as defined in claim 28 further comprising the step of cladding said fiber.

30. (Original) The invention as defined in claim 28 wherein said carbon particles are carbon nanotube molecules.

31. (Original) The invention as defined in claim 28 wherein said carbon particles are carbon fibrils.

32. (New) The invention as defined in claim 28, wherein the step of heating said fiber so as to cause comprises substantially removing the solidified curable liquid so that said fiber consists essentially of said carbon particles.

33. (New) The invention as defined in claim 28, wherein said curable liquid comprises at least one of the group consisting of:

- (i) a copolymer of (a) methylmethacrylate with (b) the ester of methacrylic acid and anthaceyl methanol; and
- (ii) PS2067.

34. (New) The invention as defined in claim 19, wherein the step of heating comprises substantially removing the solidified portion so that said fiber consists essentially of said carbon particles.

35. (New) The invention as defined in claim 19, wherein said curable liquid comprises at least one of the group consisting of:

- (i) a copolymer of (a) methylmethacrylate with (b) the ester of methacrylic acid and anthaceyl methanol; and
- (ii) PS2067.

36. (New) The invention as defined in claim 1, wherein the step of heating said fiber comprises substantially removing the solidified portion so that said fiber consists essentially of said carbon particles.